CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER No. R2-2017-00XX

WASTE DISCHARGE REQUIREMENTS and WATER QUALITY CERTIFICATION for:

SANTA CLARA VALLEY WATER DISTRICT and
U.S. ARMY CORPS OF ENGINEERS,
UPPER BERRYESSA CREEK FLOOD RISK MANAGEMENT PROJECT
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), finds that:

1. The Santa Clara Valley Water District (District) delivers water and is responsible for flood protection and stream stewardship in Santa Clara County (County). The District is charged with providing local flood protection within five major watersheds in the County, including the 322-square mile Coyote Creek watershed, which drains from the southeastern hills of the County to Lower San Francisco Bay.

2. Berryessa Creek is in the Coyote Creek watershed in the County and drains from the undeveloped Diablo Range hills east of San Jose, through urbanized areas in San Jose and Milpitas, until it discharges to Lower Penitencia Creek, which is tributary to Coyote Creek. Under existing conditions, Berryessa Creek overtops its banks about once every 10 to 20 years in the 2.2-mile-long reach from Calaveras Boulevard in Milpitas upstream to Interstate 680 (I-680) in San Jose (Upper Berryessa Creek) (Attachment A, Figure 1).

3. **Local-Federal Partnership.** The District is partnering with the U.S. Army Corps of Engineers (Corps) for the Upper Berryessa Creek Flood Risk Management Project (Project) to increase flood protection in the surrounding community. Construction of the Project was authorized by Congress in the Water Resources Development Act (WRDA) of 1990, Public Law 101-640, section 101(a)(5). The District and Corps are each funding Project costs and, between the two sponsors, are dividing and/or sharing various roles and responsibilities, such as design, construction, and post-construction operations, in accordance with the Project Partnership Agreement signed by the Corps and District on May 17, 2016. Regarding cost-sharing, the Project Partnership Agreement stipulates that the District will contribute 25 to 50 percent of the total Project cost, in accordance with the WRDA of 1986, Public Law 99-662, as amended (United States Code, title 33, section 2213). The cost-sharing schedule specifically requires the Corps to conduct (and/or oversee) construction contracting and activities and the District to provide all lands, easements, rights-of-way, relocations, and disposal areas (LERRD). The WRDA also requires the Corps to prepare an operations and maintenance manual for the Project (see Finding 16 - Maintenance).

   While the WRDA and the Project Partnership Agreement stipulate cost-sharing criteria between the Corps and District, construction management and implementation to the Corps,

and LERRD to the District, this Order specifically requires the development and implementation of additional plans, which are described in more detail in this Order:

a. Adaptive Management Plan (Finding 17; Provision 18);

b. Mitigation and Monitoring Plan for compensatory mitigation (Finding 21; Provision 19); and

c. Post-Construction Stormwater Management Plan (Finding 20 (Impacts); Provision 15).

The Water Board's understanding is that the District will be responsible for these three plans because the District owns the Project and is responsible for post-construction operations and maintenance. In addition, the Water Board understands that certain aspects of the construction activities are the responsibility of the Corps (see Findings 8, 9, and 10).

4. **Dischargers.** The Water Board is issuing this Order to the District and Corps, collectively referred to as the "Discharger," because the Project activities will cause or contribute to a discharge of waste that will affect the quality of waters of the State and the United States. By the nature of WRDA projects, the partnership between the Corps and District is inextricable, and the Project could not occur without each sponsor. Therefore, the Water Board is naming the District and Corps, the two Project co-sponsors, as dischargers. As appropriate, this Order notes which Discharger has agreed to be responsible for certain requirements based on WRDA requirements, as well as the Water Board's understanding of the agreements the Corps and District have made with each other (see Finding 3).

5. **Rescission of Existing Water Quality Certification.** The Water Board previously issued water quality certification for the Project pursuant to Clean Water Act (CWA) section 401 to the Corps on March 14, 2016, (Certification) to facilitate the Corps' timely contracting for the Project (see Finding 23). The Certification required the Corps to construct the Project consistent with the then-current design plans and the Corps' water quality certification application dated September 25, 2015 (Application). This Order rescinds and supersedes the previously-issued water quality certification with waste discharge requirements (WDRs) and a reissued water quality certification. The Water Board is authorized to issue WDRs and water quality certification for the Project in accordance with California Water Code (CWC) section 13263(a) and CWA section 401(d) to both the Corps and the District as the Dischargers.

6. **Project Purpose**. The Project is intended to provide flood protection in Upper Berryessa Creek from the one percent exceedance probability flood event (also known as the one-percent-annual-chance flood event, or the 100-year flood event) for an estimated 650 land parcels and to contribute to reduced flood risks for an unquantified number of additional parcels where flow from Upper Berryessa Creek combines with other flood waters. The Project will also modify about ~~210~~ 220 linear feet of Los Coches Creek and 60 linear feet of Piedmont Creek, which are tributary to Upper Berryessa Creek. The completed Project will meet Federal Emergency Management Administration certification standards.

The area being protected encompasses the new Milpitas Bay Area Rapid Transit (BART) station and rail line infrastructure, part of a $2.3 billion (including $900 million in federal

funding) BART expansion project to extend BART service from Fremont through Milpitas to San Jose. Project construction began in early October 2016 and is scheduled to be completed in December 2017, with the intent to be complete before the planned opening of the Milpitas BART station in late 2017. The Project is located just upstream of the Lower Berryessa Creek and Lower Calera Creek Flood Protection Improvements Project currently under construction by the District, as authorized by the Water Board in October 2015, which has a planned completion date of October 2018.

7. **Coverage of this Order.** This Order covers Project construction activities (see construction elements listed below), as well as planned operations and maintenance activities after the Project is constructed (see Finding 16 for additional information about maintenance). This Order also covers the mitigation and monitoring requirements necessary for compliance with federal and State regulations (e.g., see Findings 19 through 28~~, and Finding 30~~).

   The Project's major construction features include: (1) enlarging the Upper Berryessa Creek channel; (2) armoring the channel beds and banks with rock riprap to be covered with 4 inches of soil and to be hydroseeded; and (3) constructing concrete box culverts and concrete transition structures, floodwalls, and access ramps.

   The Project construction elements have the following details below and are shown in Attachment A, Figures 2 and 3; and the fill and excavation information is presented in Table 1:

   a. Widen, deepen, and contour Upper Berryessa Creek to create a trapezoidal channel cross section with a bed width varying from 12 to 40 feet, depth varying from 8 to 14 feet, and banks with a 2-to-1 horizontal-to-vertical (2:1) slope. The channel footprint from top of bank to top of bank in Upper Berryessa Creek will increase from 9.7 to 17.2 acres;

   b. Build two new pre-cast (or cast-in-place) concrete box culverts (where currently none exist), consisting of a box culvert at both the Los Coches Creek and Piedmont Creek mouths and a double-barrel box culvert to replace the existing Union Pacific Railroad (UPRR) wooden trestle bridge downstream of Montague Expressway, and the associated cast-in-place concrete wingwalls and concrete or grouted rock riprap transition structures;

   c. Armor the channel bed and banks with rock riprap, covered by 4 inches of soil and hydroseeded for erosion protection, with the following details:

      i. Total area of 9.81 acres (10,072 linear feet of rock riprap, including 9.71 acres in Upper Berryessa Creek (9,831 linear feet), 0.09 acres in Los Coches Creek (221 linear feet), and less than 0.01 acres in Piedmont Creek (20 linear feet);

      ii. Rock riprap (9 to 24 inches thick) in channel beds and banks extending up to the 2.5- to 10-year water surface elevation (7,547 linear feet);

      iii. Rock riprap in banks (additional 2,525 linear feet in Upper Berryessa Creek) extending from 5 feet below the channel invert elevation up to the 2.5- to 10-year water surface elevation;

      iv. A 4-inch layer of native soil covering channel bed and bank riprap (10,072 linear

feet), covered by biodegradable coconut fiber mats from the toe to top of banks, with hydroseed in beds and banks to promote herbaceous native vegetation growth and erosion protection; and

v. Grouted rock riprap (24 inches thick) at the Piedmont Creek confluence and beneath the existing Yosemite Drive bridge crossing;

d. Construct concrete floodwalls of 1,123 feet long by up to 2-feet high on the left bank (looking downstream) of Upper Berryessa Creek, between Los Coches Street and Piedmont Creek at the top of bank, and 450-feet long by 3-feet deep, to be buried on the left bank upstream of Montague Expressway to reinforce an existing retaining wall;

e. Construct two concrete access ramps on the right bank (looking downstream), one located about 1,000 feet upstream of Montague Expressway and the other one is 900 feet downstream of I-680; ~~and a concrete access road to the new UPRR culvert;~~

f. Construct concrete and rock riprap transition structures at the upstream face of the existing Calaveras Boulevard Bridge;

g. Build 4.33 acres and 10,865 linear feet of new maintenance roads and redevelop 2.47 acres and 5,978 linear feet of existing maintenance roads, with a width of 18 feet on the right bank and a width of 15 to 18 feet on the left banks, except in certain two sections downstream of Montague Expressway and I-680 that lack space for a road;

h. Remove an unspecified volume of sediment and vegetation from about 200 linear feet of a concrete-lined reach of Upper Berryessa Creek just downstream of I-680; and

i. Replace and realign existing selected utilities within the Project right-of-way according to the 100 percent design plans dated August 4, 2016.

Table 1. Fill and Excavation Quantities

Project Element	Material	Excavation (cubic yards)	Fill (cubic yards)	Length (linear feet)	Area (acres)
Enlarge and contour channel	Soil	148,400	33,600	10,453	17.2
Riprap in beds and banks	Imported rock (9 to 24-inch diameter)	--	15,233	~~10,072~~ 9,753	9.23
Grouted riprap in beds and banks	Imported rock (24-inch diameter)	--	1,882	319	0.58
Pre-cast concrete culverts	Concrete	--	675	284	0.11
Cast-in-place wingwalls and transition structures	Concrete	--	37	100	<0.01
Access ramps	Concrete	--	101	200	0.10
~~Access road (10-ft wide) to new UPRR culvert~~	~~Concrete~~	~~--~~	~~15~~	~~15~~	~~0.01~~
Floodwalls	Concrete	--	424	1,573	0.04
Concrete channel lining	Concrete	290	---	262	0.36
Maintenance roads	Aggregate base material	--	5,654	16,843[1]	6.8

Notes:
"- -" – Not applicable; UPRR – Union Pacific Railroad

[1] This length is the total for roads on both sides of the channel. Roughly 10,400 linear feet of Upper Berryessa Creek will have maintenance roads on at least one side of the channel. The area of new road is 4.33 acres and the area of redeveloped road is 2.47 acres.

8. **Staging, Stockpiling, and Hauling.** Two areas outside of the Project right-of-way will be used for staging and sediment stockpiling (Attachment A, Figures 2 and 3). Access to and from the Project site and the staging areas will occur along existing paved roads via Calaveras Boulevard, Los Coches Street, Yosemite Drive, Ames Avenue, and Montague Expressway. The Water Board's understanding is that the Corps is implementing the staging, stockpiling, and hauling tasks associated with the construction of the Project.

9. **Reuse or Dispose of Exported Material.** The Discharger will haul about 114,800 cubic yards of sediment from the Project site in addition to demolition debris such as concrete and utility components. Soil and demolition debris will be reused or recycled to the extent feasible. Disposal of any demolished material and debris will be in accordance with all

applicable local, State, and federal regulations. The soil to be transported offsite is suitable for non-hazardous landfill disposal, according to the Project Environmental Impact Report (Project EIR) (State Clearinghouse No. 2001104013). The Water Board's understanding is that the Corps is implementing the soil reuse and disposal tasks relevant to this Finding.

10. **Construction General Permit.** The Discharger is required to seek coverage under and comply with, or oversee that its contractors seek coverage and comply with, the statewide General Permit for Discharges of Storm Water Associated with Construction Activities (Order No. DWQ-2009-0009, as amended by Order Nos. 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit) (Provision 9). The Corps has contracted with its consultants to meet the requirements of the Construction General Permit.

11. **Final 100 Percent Design Plans.** The Water Board has received final 100 percent design plans and specifications dated August 4, 2016, and the final 100 percent Planting Plan dated April 1, 2016. Effective October 3, 2016, the Project is under construction.

12. **Replace and Realign Selected Utilities Infrastructure.** Multiple utility lines are in the Project right-of-way, including sanitary sewer, stormwater, irrigation, cable, electrical, telephone, fiber optic, and gas lines. The locations of some utilities are estimated and will be confirmed during Project construction activities. Consistent with the 100 percent design plans, the utility infrastructure planned for replacement and/or realignment are sanitary sewer, stormwater lines and outlets, a water irrigation line, an electric line, and two electric utility vaults. In addition, two groundwater monitoring wells and a gauging port will be relocated. In addition, the Application states that all utility work will be implemented by cut and fill procedures with no directional drilling.

13. **Rain Event Action Plan.** The Discharger shall develop and implement a Rain Event Action Plan (REAP), as required by the Construction General Permit, designed to protect all exposed portions of the Site within 48 hours prior to any likely precipitation event. The REAP requirement is designed to ensure that the Discharger has adequate materials, staff, and time to implement erosion and sediment control measures that are intended to reduce the amount of sediment and other pollutants generated from the active site. A REAP must be developed when there is a forecast of 50 percent or greater probability of substantial precipitation in the Project area.

14. **Dewatering.** Dewatering of surface water or groundwater that accumulates at excavated areas will likely be necessary. The Project EIR includes a mitigation measure for creek dewatering (WAQ-B, "Prepare and Implement a Dewatering Plan"). The Discharger submitted an acceptable Dewatering Plan on January 9, 2017. ~~The Corps' consultant, Aquifer Sciences, Inc., submitted a Dewatering Plan to the Water Board on October 21, 2016. The existing plan addresses groundwater at the Project site from stations 87 through 156, where groundwater will likely be encountered during construction. In areas upstream of station 156, where the Corps does not anticipate encountering groundwater, the Corps plans to track groundwater elevations using temporary piezometers. The plan does not yet address surface water flows. Water Board staff notified the Corps and its consultant on October 26, 2016, that, in order for the plan to be acceptable to the Executive Officer, the following revisions are necessary:~~

~~a. Include appropriate measures to address surface water flows throughout the Project site, should they be present;~~

~~b. Explain how coffer dams, dissipation devices, and other dewatering equipment and infrastructure will be inspected and maintained while in use to appropriately protect water quality;~~

~~c. Include appropriate measures, including sedimentation and erosion control measures, to protect water quality when placing and removing coffer dams, dissipation devices, and other dewatering equipment and infrastructure; and~~

~~d. Recognize that the Discharger will complete measures already proposed in the October 21, 2016, plan for areas of Project dewatering needed outside stations 87 through 156, should there be a need for dewatering in those other areas.~~

~~e. The consultant has submitted two revisions since December 8, 2016, and is working closely with Water Board staff to complete a final plan that meets the Water Board's requirements.~~

15. **Groundwater Management and Soil Management.** The Project is within the footprint of a past solvent release from the former Jones Chemical, Inc., chemical plant (JCI site). The Water Board requires the Discharger to capture and treat all groundwater encountered from within the potential extent of the toxic waste plume as demarcated in the 100 percent design plans (JCI p~~P~~lume area). Any such groundwater must meet the standards of the General Permit for the Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (Water Board Order No. R2-2012-0012; NPDES Permit No. CAG912002) (VOC and Fuel General Permit), as stipulated in a letter to the Corps dated August 14, 2015. The Corps submitted a Groundwater Management Plan dated January 26, 2016, for groundwater discharges in the JCI plume area ~~impacted by the groundwater contamination plume from the former Jones Chemical facility~~. Water Board staff notified Corps staff on March 8, 2016, that the plan is acceptable.

    The Project EIR, Appendix E, contains soil sampling data from the JCI plume area indicating that VOCs were detected in soils at concentrations less than the Water Board's Environmental Screening Levels. However, excavating in the JCI plume area may bring soil vapor VOC concentrations to the surface at concentrations that may be a worker health and safety concern, in light of the soil vapor concentrations west of the Project site. The Corps' Design Documentation Report (DDR) dated April 29, 2016, states that if contaminated soils are encountered, the soil will be removed and stockpiled on the JCI site for disposal by others. The Water Board requires the data collected for soil analyses, stockpiling, and disposal for soil excavated within the JCI plume area to be made available to the Executive Officer upon request, consistent with Provision 16.

16. **Maintenance**. The Project EIR states that regular maintenance, such as sediment and vegetation removal in Upper Berryessa Creek, will be necessary after the Project is constructed. The District will be responsible for maintenance for the life of the Project, which

is anticipated to be approximately 50 years. As part of the federal-local partnership, and in accordance with the WRDA of 1990 (Finding 3), the Corps will develop an Operations and Maintenance Manual (O&M Manual) to guide maintenance, such as sediment removal.

The O&M Manual will be completed after the Local Cost Agreement is completed between the Corps and the District. However, the schedule for this has not been identified by the Corps. According to the Project Environmental Impact Statement/General Reauthorization Report (EIS/GRR), the Corps plans to conduct cross-sectional and longitudinal monitoring after construction is completed to inform development of the O&M Manual (Revised Final EIS/GRR, March 2014; specifically in the Corps' responses to comments from the Peer Review Panel (Batelle ~~Memorial Institute~~, 2013[1]).

The Project EIR also states that the Project will result in less sediment accumulation and less volume than existing conditions and, specifically, that sediment will accumulate only at the UPRR trestle bridge replacement site and the other UPRR culvert upstream of Ames Avenue. ~~These conclusions are based on the Project sediment transport modeling results.~~

~~However,~~ Water Board staff's review of the sediment transport model and other Project documents indicates that the Project reach will continue to be depositional, despite the banks being stabilized. This is because there is ample sediment supply to the Project reach both from upstream and its tributaries, and because, as stated in the Project EIR, the Project design will increase the channel cross-sectional area, which will result in reduced velocity during storm flows and lower sediment transport capacity. In addition, based on the sediment transport modeling results in the technical memo dated July 20, 2016,[2] "…small benches might deposit in the proposed design cross section…," which would have "minor" impacts on flood conveyance and would not trigger sediment maintenance. Further, the Project site is in an alluvial fan, which by its very nature tends toward deposition. All lines of geomorphic evidence, including lower shear stresses, field observations, comparison of historic and current cross sections, and maintenance records, indicate the Project will result in a more-depositional system than existing conditions (Water Board Staff Memos, October 21, 2016,~~1~~[3] and April 12, 2016[4]).

The accumulation of sediment may benefit the creek because the sediment could provide a

[1] Batelle Memorial Institute (Batelle), 2013. Final Independent External Peer Review Report Berryessa Creek, Santa Clara County, California, General Reevaluation Study (GRS) Draft General Reevaluation Report and Environmental Impact Statement/Environmental Impact Report. Department of the Army U.S. Army Corps of Engineers Flood Risk Management Planning Center of Expertise for the Baltimore District. Batelle, Columbus, OH.

[2] Santa Clara Valley Water District (District), 2016a. Comments on Waste Discharge Requirements for the Upper Berryessa Creek Flood Risk Management Project. Exhibit 1-Technical Memorandum. Channel Stability and Geomorphologic Characteristics (July 20, 2016). Submitted to Water Board, September 19, 2016.

[3] Setenay Bozkurt Frucht, 2016. Response to SCVWD Comments on the Upper Berryessa Creek Tentative Order. Internal Staff Memorandum from S. Bozkurt Frucht to Keith Lichten, Chief, Watershed Management Division, San Francisco Bay Regional Water Quality Control Board. Available from Water Board staff upon request.

[4] Riley, Ann L., and Setenay Bozkurt Frucht, 2016. Projected Future Maintenance on the Upper BerryessaCreek Flood Risk Management Project. Internal Staff Memorandum from A. Riley and S. Bozkurt Frucht to Keith Lichten, Chief, Watershed Management Division, San Francisco Bay Regional Water Quality Control Board. Available from Water Board staff upon request.

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more natural substrate for biota and allow for more diverse habitat via the development of a low-flow channel. However, if sediment must be removed at a volume and frequency that prevents the development and persistence of a low-flow channel, these benefits will not be realized. In addition, an independent peer review panel (Batelle, 2013 (see Footnote 1)) found that sedimentation can occur at various locations in the Project reach. Although the peer review panel did not elaborate on whether its members concur or disagree with the Discharger's findings that sediment will only accumulate at the two UPRR sites, the panel expressed significant concern about "…the lack of details on the operation and maintenance (O&M) plan and has identified the need for a detailed O&M plan to ensure the design assumptions concerning sedimentation are valid." The Water Board shares these concerns and, accordingly, requires the following steps to address sediment maintenance in the Project. These steps will occur in tandem with the Corps' process to develop an O&M Manual for the Project, and are intended to minimize the recurring impacts from sediment maintenance activities:

a. **Santa Clara Valley Water District Stream Maintenance Program**. The timing of the Local Cost Agreement to occur, and for the transfer of the Project from the Corps to the District, is uncertain, and the O&M Manual may not be available immediately after the Project is constructed. Although the EIS/GRR states the O&M Manual will be developed during the pre-construction design and engineering phase, the Corps will instead develop it after the Project is constructed based on an interagency agreement (January 4, 2016, meeting with Water Board, Corps, and District staffs). Therefore, while the O&M Manual is being developed, this Order authorizes the District to conduct maintenance consistent with the District's existing Stream Maintenance Program (SMP) (Provision 17), authorized under Water Board Order No. R2-2014-0015 (SMP Order), and any future revisions. In the event there is a conflict between the SMP Order, the O&M Manual, and this Order, the requirements of this Order will govern.

b. **Multiagency Collaboration**. Development of the O&M Manual will be accomplished through a collaboration of the Water Board and other appropriate regional, State, and federal agencies. This is necessary to ensure the planning and implementation of maintenance are consistent with the SMP and, accordingly, will minimize environmental impacts. Additionally, it is consistent with the SMP approach, which includes a multi-agency collaborative process to determine maintenance needs, based on avoiding and minimizing impacts in waters to the extent practicable.

c. **Maintenance Action Thresholds**. The O&M Manual will set maintenance action thresholds based on channel capacities and a performance standard based on protecting 50 percent of the Project design freeboard, consistent with the maximum tolerance applied by the Corps in flood control projects it co-sponsors. The Manual will include using a combination of vegetation and/or sediment management to meet flood risk objectives while minimizing environmental impacts. Using maintenance action thresholds is consistent with the District's SMP Manual process for developing reach- and creek-specific maintenance guidelines. Maintenance action thresholds will be revised iteratively, if needed, based on data to be collected under the Adaptive Management Plan described in the next finding.

d. **Five-Year Assessments for Adaptive Management, and Previously-Mitigated Areas**. The O&M Manual will be evaluated at least every five years to incorporate the findings (i.e., development of maintenance guidelines) under the activities required in the next finding to prepare and implement an Adaptive Management Plan.

e. **Authority to Conduct Maintenance in the Project Site**. Maintenance in the Project site, after construction is completed, is authorized under this Order until such time that the Executive Officer determines the site may be folded into the District's SMP. This is necessary because the monitoring necessary to verify sediment transport processes cannot be maintained under the SMP procedures for priority project budgeting and implementation.

17. **Adaptive Management Plan.** This Order requires the Discharger to submit an Adaptive Management Plan, acceptable to the Executive Officer, pursuant to Provision 18. The Adaptive Management Plan will describe channel dimension and flow data to be collected, which the Discharger will use to understand how the Project is performing after construction (e.g., stage-discharge relationships) and to generate quantifiable channel capacity flood protection objectives (e.g., acceptable freeboard at bridge crossings) to guide future maintenance activities. The objectives shall be revised iteratively as new data are collected under post-construction conditions and shall inform the O&M five-year assessments.

    Adaptive management is consistent with the District's SMP, which requires development of channel and reach-specific triggers for maintenance (i.e., maintenance guidelines) that minimize disturbance of the creek channel vegetation and substrate. This approach informs sediment and vegetation removal based on field observations of channel processes and performance, rather than solely using design criteria. Further, at least part of the data to be collected is consistent with the Corps' plans to collect longitudinal and cross-sectional data to calibrate sediment transport model results, specified in the Corps' responses to comments from the peer review panel (Batelle ~~Memorial Institute~~, 2013).

18. **Waters of the U.S. and of the State.** Based on a jurisdictional wetland delineation (Tetra Tech, 2014), the Project has 4.18 acres of waters of the U.S. as creek waters (other waters). The waters of the U.S. are also waters of the State. An additional area of 5.63 acres from the ordinary high water mark elevation to the tops of banks constitutes waters of the State (but not waters of the U.S.), for a total area of ~~10.1~~ 9.81 acres of waters of the State. This elevation difference, i.e., the vertical distance from the ordinary high water mark to the top of bank, ranges from zero to 6 feet. The linear extent of the Project activities in waters of the U.S. and of the State is approximately 10,072 linear feet of other waters.

    No jurisdictional wetlands, as defined by the Corps' 1987 manual for wetland delineation, are in the Project area. However, significant portions of the creek, inset floodplain, and riparian habitat from top of bank to top of bank are riverine wetlands that are waters of the State (see Finding 26). The wetland delineation identified patches of wetland vegetation fringing the margins of the Upper Berryessa Creek active channel, with a combined area estimated at less than 0.5 acres, and an earlier assessment found an area of 0.39 acres of fringing wetland vegetation. For purposes of this Order, about 0.45 acres of fringing wetland vegetation is in the Project downstream of the Piedmont Creek confluence, where flow is most likely to be

present year round and support wetland vegetation.

19. **Rare and Endangered Species.** The Project site does not presently support any rare or endangered species. It provides potential habitat for such species.

~~20.~~ **Impacts.** The Project will result in fill and excavation impacts to 4.18 acres of waters of the U.S. that are also waters of the State~~,~~ and an additional 5.63 acres of waters of the State, for a total of 9.81 acres and about 10,~~072~~450 linear feet of waters of the State in Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek. These impacts ~~extend along 10,072 linear feet of creek channel~~consist of both permanent and temporal degradation of water quality function and value. The permanent and temporal impacts are co-located, although they each affect separate types of function and value in the affected creeks, as explained in detail in sections (a) and (b) below. The Project will also result in impacts from installation of new and replaced impervious surfaces. ~~No jurisdictional wetlands based on the Corps 1987 manual definition for "wetland" exist within the Project site. The "other waters" the Project will impact are wetlands that are waters of the State (see Finding 26); specifically, significant portions of the creek channels in Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek are riverine wetlands. The impacts associated with the various Project elements are shown in Table 2.~~

~~The Project will temporarily impact waters of the State and the U.S. during the excavation, grading, and construction of the Upper Berryessa Creek channel and other Project elements. The Project will also temporarily impact native vegetation, consisting of woody species throughout the Project site's top of banks, and about 0.45 acres of wetland vegetation fringing the active channel downstream of the Piedmont Creek tributary.~~

~~In addition, the waters of the State and the U.S. will be permanently impacted by the Project's design, which includes new concrete surfaces and grouted rock riprap in the creek bed of Upper Berryessa Creek and rock riprap covered by a 4-inch layer of soil in the creek beds and banks of Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek. The concrete features, grouted riprap surfaces, and rock riprap armor will restrict natural processes that occur in channels with earthen bed and banks, including the types of vegetation that can thrive, channel movement, and sediment transport processes. Consequently, the Project's design will significantly restrict the beneficial uses that could be supported by the creek and which are supported in the creek reaches immediately upstream and downstream of the Project.~~

~~Specifically, any attempts to establish native vegetation as dominant cover at the Project site (see next finding - Mitigation) will be severely restricted due to the lack of soil on the creek banks and bed. Of the six native plant species in the upland and wetland hydroseed mixes being used in the Project, the minimum root depth requirement in soil ranges from 5.1 to 20.5 inches (Cal Flora database, http://www.calflora.org/. Accessed September 26, 2016). Further, the existing soft earthen bed and banks being replaced by rock riprap will result in less habitat for the benthic and other lower trophic organisms living in the creek, including, but not limited to, algae, worms, diatoms, micro- and macroinvertebrates, and fish larvae. The lack of lower trophic organisms will restrict the WARM and WILD beneficial uses, which will, in turn, adversely affect the REC-2 beneficial use.~~

~~21.~~20. ~~The water quality of Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek could be impacted by accidental releases of soil and debris during the excavation, grading, fill installation, and creek dewatering activities, as well as by the accidental release of hazardous materials and contaminants used or encountered during construction. These releases could cause violations of the water quality objectives proscribed in Chapter 3 of the Basin Plan, including, but not limited to, water quality objectives for the following parameters: bacteria, dissolved oxygen, floating material, oil and grease, pH, sediment, settleable material, suspended material, temperature, toxicity, turbidity, and specific chemical constituents.~~

~~*Impervious Surfaces.* Furthermore, impervious surfaces created and/or replaced by the Project may also collect and concentrate stormwater runoff and pollutants that are subsequently discharged to Upper Berryessa Creek. Berryessa Creek. The Project will result in the construction of 6.8 acres of new or redeveloped maintenance roads with impervious aggregate base material and an additional 0.10 acres of impervious maintenance ramps. This Order requires the Discharger to submit and implement a Post-Construction Stormwater Management Plan sufficient to demonstrate it is complying with the post-construction best management practice (BMP) requirements in the Municipal Regional Stormwater Permit (Water Board Order No. R2-2015-0049; NPDES Permit No. CAS612008) by using appropriately designed and installed pervious material or by constructing post-construction BMPs to capture, detain, retain, and treat stormwater runoff from the Project's impervious surfaces or from an equivalent or greater amount of impervious surfaces offsite. The Discharger will be responsible for operation and maintenance of roads and any associated BMPs. The Water Board's understanding is that the District will be responsible for the submittal and implementation of the Post-Construction Stormwater Management Plan.~~

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a. Permanent Degradation in Water Quality Function and Values

i. *Rock Riprap.* The rock riprap fill (excluding the *grouted* riprap (see (ii) below)) will permanently degrade the function and value of creek bed and bank by displacing existing soil with 9- to 24-inch diameter angular rock underlain with a layer of geotextile fabric. This will result in less habitat for the benthic organisms living in the creek, including, but not limited to, algae, worms, diatoms, micro- and macroinvertebrates, and fish larvae. This impact to the benthic community will likely, in turn, reduce nutrient cycling and energy (as carbon) transfer to upper trophic level organisms (e.g., fish and birds). The lack of lower trophic organisms will restrict the designated beneficial uses in the Project, including warm water habitat, wildlife habitat, and non-contact water recreation uses (see Finding 26 for additional details of the beneficial uses).

The total rock riprap length is 9,753 feet, which encompasses 262 linear feet of concrete lining that will be removed in the area of Station 177. At this section, the replacement of concrete with rock ri~~r~~prap will result in a low-level improvement in habitat quality. Therefore, the net length of permanent degradation from rock riprap is 9,491 feet (9.23 acres).

Although a 4-inch layer of soil will cover the rock, this layer is not enough to make up for the loss in functions and values currently provided by the earthen substrate in the creek bed and banks. In addition, the riprapped substrate is likely to severely restrict the colonization of vegetation in the creek bed and banks. Woody species that may attempt to grow would be impeded by the rock substrate. Any attempts to establish native vegetation as dominant cover at the Project site (see next finding - Mitigation) will be severely restricted due to the lack of soil on the creek banks and bed. Of the six native plant species in the upland and wetland hydroseed mixes being used in the Project, the minimum root depth requirement in soil ranges from 5.1 to 20.5 inches (Cal Flora database, http://www.calflora.org/. Accessed September 26, 2016).

ii. *Concrete and Grouted Riprap Structures.* Concrete and grouted riprap culverts and transition structures will permanently degrade the function and value by restricting the creek's natural processes in the same manner but to a greater extent than the riprapped sections of channel. Both concrete and grouted riprap are impervious and block the

natural exchange of water, oxygen, and nutrients in the channel bed and bank. Further, concrete and grouted riprap surfaces do not support biota except a film of algae, fungi, and other non-vascular vegetative growth and any invertebrates that incidentally land on the hardscape. The length of concrete and grouted riprap is about 703 linear feet and 0.7 acres of creek bed and bank~~,~~ and an additional 200 linear feet (0.1 acre) along the right bank extending from the top of bank to the bed elevation. In addition, the 1,123-feet long concrete floodwall will disconnect the creek from the riparian corridor.

b. Temporal Degradation in Water Quality Function and Values

i. *Creek Widening.* The Project design will likely result in temporal losses of function and value by removing Upper Berryessa Creek's existing low-flow channel and inset floodplain benches that have formed over the past few decades and replacing them with a widened, flat-bottomed, riprapped channel. This could homogenize habitat structure within the creek and alter material transport functions until sediment deposition creates a new low-flow channel and floodplain benches. The formation of a low-flow channel with inset floodplain benches may occur from about the 1.1-year[5] to 10-year[6] flow based on the District's analyses~~,~~ and~~,~~ depending on precipitation patterns after construction is completed. Accordingly, recovery from channel widening will likely occur within five years. Thus, channel widening will result in temporal losses in function, contingent upon the Discharger's implementation of adaptive management discussed in Finding 17. Channel widening will impact 9,327 linear feet of Upper Berryessa Creek (channel widening will not occur at the Montague Expressway crossing, the two UPRR bridges, the Yosemite Drive crossing, and the Los Coches Creek confluence).

ii. *Vegetation Removal.* The Project will remove 53 native trees and shrubs growing within creek banks along the entire length of the Project. The Project will also remove about 0.45 acres of non-woody wetland vegetation fringing and within the active channel downstream of the Piedmont Creek tributary. Removing the woody vegetation from the riparian corridor and non-woody wetland vegetation fringing and within the active channel is impactful because this vegetation contributes to bank stability, nutrient cycling, water cycling, and habitat for wildlife. Wetland vegetation will likely reestablish within the same time frame as the active channel (i.e., within five years), based on similar projects in the San Francisco Bay Region, and the District's SMP.

iii. *Construction Activities.* The Project will temporarily impact waters of the State and the U.S. during construction (about 15 months) of the Project. The water quality of Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek will be impacted by creek dewatering activities and may be impacted by accidental releases of soil, debris, other non-hazardous materials, hazardous materials, and contaminants during construction. These releases could cause violations of the water quality objectives proscribed in Chapter 3 of the Basin Plan, including, but not limited to, water quality objectives for

[5] Santa Clara Valley Water District ~~(District)~~, 2016-b. Geomorphic Approach to Design and Maintain Creeks. Powerpoint Presentation, June 24, 2016.

[6] Stefanovic, Dragi (District's Consulting Engineer at Tetra Tech), 2016. Email to Water Board staff, Setenay Bozkurt Frucht, January 11, 2016.

the following parameters: bacteria, dissolved oxygen, floating material, oil and grease, pH, sediment, settleable material, suspended material, temperature, toxicity, turbidity, and specific chemical constituents.

Table 2: Impacts on Creek Habitat

Upper Berryessa Flood Risk Management Project

Project Elements	Permanent Impacts[1]		Temporary Impacts[1]	
	Acres	Linear ft	Acres	Linear ft
Creek dewatering	--	--	9.81	10,453
Creek excavation and grading	--	--	9.81	10,072
Rock riprap in channel beds and banks[2]	9.81	10,072	--	--
Grouted riprap	0.58	319	--	--
Net new concrete surfaces from culverts, wingwalls, transition structures, ramps, driveway[3]	0.20	861		
Concrete floodwalls[4]	--	1,123	--	450
Remove native shrubs and trees	--	--	53 native shrubs and trees to be removed	
Impacts from future O&M activities	To be tracked during post-project O&M activities			

Notes:

ft – feet; O&M – operations and maintenance; "- -" – not applicable

[1] The areal and linear extents of impacts are overlapping, so they are not summed.

[2] This area is based on the existing creek dimensions from top of bank to top of bank; post-project area will be 17.2 acres (see Table 1).

[3] The net area and linear feet account for removal of 0.37 acres in 262 linear feet of concrete bed and banks in Upper Berryessa Creek between Montague Expressway and I-680.

[4] The 1,123 feet long floodwall is a permanent impact because it will be on the top of the bank, obstructing flow. A 450 long floodwall, upstream of Montague Expressway, will be buried to reinforce an existing retaining wall and, therefore, will not result in new impacts to waters of the U.S. or the State.

22.21. **Mitigation.** The Application states the Discharger will replace any native trees and shrubs that will be removed and maintain them for five years. The locations for native tree and shrub species to be planted at the site are shown in the 100 percent Planting Plan dated April 1, 2016. The Discharger will seed the creek channel beds with wetland species to serve as a seed bank to restore the 0.45 acres of wetland vegetation to be removed by the Project. The Discharger will also seed the banks with native grass species. The wetland and grass species palettes are listed in the 100 percent Planting Plan specifications (section 32 92 19).

The Water Board requires additional mitigation to compensate for temporary and permanent losses of functions and values resulting from the Project design as described in Finding 20.

The Discharger has stated that compensatory mitigation is not feasible within the Project site. Therefore, compensatory mitigation will be offsite. This Order requires the Discharger to submit a Mitigation and Monitoring Plan (MMP), acceptable to the Executive Officer, by June 30, 2017, and to timely implement the MMP. The Water Board's understanding is that this schedule coincides with the District's schedule to adopt the capital improvement project budget for its One Water Plan. However, this Order does not require the District to propose a One Water Plan project as compensatory mitigation. The Water Board will notify the public upon receipt of the required MMP and consider public comments before the Executive Officer accepts it.

The MMP must propose mitigation such that the Project and mitigation, taken together, meet the California Wetlands Conservation Policy (Executive Order W-59-93), known as the "No Net Loss Policy," as described in the Basin Plan (see Findings 27 and 28). -The purpose of the No Net Loss Policy is to ensure no overall net loss and to achieve a long term net gain in the quantity, quality, and permanence of wetlands acreage and values. Compensatory mitigation is determined in part, on the functions and areal extent of the lost wetlands. The Water Board has considered the following factors in determining the required amount of mitigation that will adequately compensates for functions lost as a result of the Project:

- The mitigation project will enhance riverine wetland functions rather than restore or create riverine wetland area and functions;
- The mitigation will be in-kind (i.e., riverine mitigation for riverine impacts);
- The mitigation project will be offsite (because the Discharger has stated that compensatory mitigation is not feasible within the Project site), and will be within the Berryessa Creek watershed or elsewhere within the District's jurisdiction and within the San Francisco Bay Region;
- The mitigation project will be constructed within 12 months of the date when creek impacts first occurred (i.e., temporal loss of functions for one year);
- The enhancement benefits from the mitigation project will be fully achieved within five years;
- The mitigation project will have -a moderate to high likelihood of success;
- The Project will result in an additional 7.4 acres of waters of the State, which will have the function and value of creek waters with rock riprap armor and concrete substrate, and a moderate to low likelihood of native vegetation success in dominating the disturbed area; and
- The Project site will partially recover from impacts within five years of incurring the impacts (e.g., formation of a new low-low channel and establishment of wetland vegetation within five years).

Based on these factors, the Water Board requires the MMP to include measures that enhance about 15,000 linear feet or 15 acres of waters of the State, or a combination of length and

area commensurate with the Project's impacts.

In addition, the Water Board may increase or decrease the amount of mitigation required if any of the factors listed above change. For instance, the mitigation length and/or area will be increased by an additional 10 percent for each year mitigation is delayed to compensate for the additional temporal loss. This annual increase is consistent with how the Water Board accounts for temporary impacts in any project. Similarly, the Water Board may decrease the amount of mitigation if the proposed mitigation project is constructed quickly, has a small footprint for construction activities, and has far-reaching beneficial impacts in waters downstream and/or upstream of the mitigation project construction footprint.~~Mitigation shall preferentially occur at the impacted site, which is referred to as "onsite" mitigation (i.e., within the Project right-of-way), and shall recreate the same type of waters as the impacted waters, which is referred to as "in-kind" mitigation.~~

~~This Order requires that permanently-affected waters of the U.S. and of the State will be mitigated at a minimum mitigation-to-effect ratio of 2:1. As such, the mitigation package for habitat shall provide a minimum restoration of approximately twice the 10.1-acre area and 10,072-linear-foot length feet of creek habitat area, or the equivalent, as compared to the area and linear feet in which rock riprap and concrete will be installed. Restoration of temporarily-affected habitat will be mitigated at a minimum mitigation-to-effect ratio of 1.5:1. The minimum ratio of 2:1 for permanent impacts and 1.5:1 for temporary impacts will apply as long as construction of a mitigation activity is completed within 12 months of the date when the associated impact first occurs. An additional 10 percent mitigation per year, on an areal basis, will be required for the portion of mitigation not completed within the required 12-month period. To ensure that the additional 10 percent mitigation per year is applied appropriately, Provision 21 of this Order requires the Discharger to maintain and make available for review by Water Board staff an Impacts Log to track the length of time between when impacts occur and mitigation is implemented.~~

~~In addition, the Water Board may require a higher amount of mitigation than those amounts stated above, depending on the type (i.e., in-kind or out-of-kind) and proximity (i.e., onsite or offsite) of proposed mitigation relative to the impacted creeks in the Project. For example, the following situations warrant additional mitigation:~~

- ~~The placement of offsite mitigation waters or the creation of out-of-kind mitigation (created or restored waters that are different habitat types than the impacted waters), though this can be allowed where it is demonstrated that an overall net gain will occur;~~

- ~~The mitigation project has an uncertainty in the success associated with the construction or restoration of mitigation wetlands and/or waters; and~~

- ~~Delays in the construction or restoration of mitigation wetlands and/or waters, relative to when the Project's impacts occur.~~

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- ~~The placement of off-site~~ offsite ~~mitigation waters or the creation of out-of-kind mitigation (created or restored waters that are different habitat types than the impacted waters), though this can be allowed where it is demonstrated that an overall net gain will occur;~~

- ~~Mitigation project has uncertainty of the success associated with the construction or restoration of mitigation wetlands and/or waters; and~~

- ~~Delays in the construction or restoration of mitigation wetlands and/or waters, relative to when the Project's impacts occur.~~

When determining whether to accept out-of-kind mitigation, the Water Board may consider such sources as the Baylands Ecosystem Habitat Goals (1999), the Baylands Ecosystem Species and Community Profiles (2000), and the Baylands Ecosystem Habitat Goals Science Update (2015) (referred to collectively as the "Habitat Goals Reports"), the San Francisco Estuary Partnership's Comprehensive Conservation and Management Plan (1993 and its 2016 revision), or other plans specific to the District's flood protection and stream stewardship goals that would result in a project with a "long-term net gain in the quantity, quality, and permanence of wetlands acreage and values ..." consistent with the Basin Plan, section 4.23.4. Examples of potentially acceptable mitigation projects include dam removal, increasing salmonid habitat complexity in another creek, replacing a concrete channel with restored riverine wetland habitat, and preparing a watershed management plan and implementing ~~specified~~ projects specified in that plan sufficient to meet the Order's mitigation requirements.

The MMP must include performance and success criteria appropriate for the type of project. For vegetation in mitigation sites, herbaceous plantings must be monitored for no less than five years, and shrubs and trees must be monitored for no less than ten years, consistent with the Vegetation Performance and Success Criteria in Attachment B or standards of equivalent or better effectiveness.

The MMP will also report on the recovery of channel form and processes after the Project is completed using data collected to calibrate sediment transport model results and inform maintenance activities under the Adaptive Management Plan (see Finding 17).

~~23.~~22. **Monitoring and Technical Reports.** All monitoring and technical reports required in this Order are required pursuant to CWC section 13267. The burden of preparing these reports, including costs, bears a reasonable relationship to the benefits to be obtained from the reports and monitoring. Specifically, the monitoring and technical reports will demonstrate protection of beneficial uses during construction and maintenance projects, as well as verify the success of efforts to mitigate impacts as described in Findings 20 (i.e., impacts) and 21 (i.e., mitigation requirements). The monitoring reports will log the progress of revegetation over time and verify the success of mitigation plantings and/or other project features in the MMP, consistent with the minimum success and performance standards in the MMP. In addition, the technical reports will document the Project design and inform the Adaptive Management Plan and its implementation.

~~24.~~23. **Water Quality Certification.** The Project will result in discharge of dredge and fill materials into waters of the U.S. and of the State. The CWA (33 U.S.C. §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) Section 401 of the CWA (33 U.S.C. §1341) requires every applicant for a federal license or permit that may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the CWA, including water quality standards and implementation plans promulgated pursuant to CWA section 303 (33 U.S.C. § 1313). CWA section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the CWA and with any other appropriate requirement of state law. CWA section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project.

As the federal administrating agency for regulating the discharge of dredge and fill materials to waters of the U.S. pursuant to CWA section 404 (33 U.S.C., section 1344), the Corps signed the Record of Decision dated May 29, 2015, stating that the Project meets all environmental statutes. On March 14, 2016, the Water Board issued the Certification pursuant to CWA section 401 to the Corps for the Project. The Certification states that the Water Board would consider WDRs for the Project to address the future operations and maintenance activities, vegetation monitoring for construction mitigation plantings, and an offsite mitigation plan for impacts due to the Project's design. This Order rescinds and supersedes the previously-issued water quality certification and replaces it with WDRs and a new water quality certification.

~~25.~~24. **Waste Discharge Requirements (WDRs).** Pursuant to CWC section 13263 and Title 23, section 3857 of the California Code of Regulations (CCR), the Water Board is issuing WDRs to regulate the proposed discharge of excavation, dredge, and fill materials into waters of the State. The Water Board considers WDRs necessary to adequately address impacts and mitigation to beneficial uses of waters of the State from the Project, to meet the objectives of the California Wetlands Conservation Policy (Executive Order W-59- 93), and to accommodate and require appropriate changes over the life of the Project, including during its construction. In accordance with CWC~~,~~ sections 13263(a) and 13241, the Water Board, after considering this matter at a public hearing, has prescribed requirements as to the nature of the proposed discharge. These requirements implement the Water Board's relevant water quality control plans and policies~~,~~ and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisance.

~~26.~~25. **California Environmental Quality Act (CEQA).** CEQA requires all discretionary projects approved by public agencies to be in full compliance with CEQA, and requires a lead agency to prepare an appropriate environmental document for such projects. The Discharger, as the lead agency, certified an Environmental Impact Report ~~(EIR)~~ for the Project on February 9, 2016 (Project EIR). The Project EIR found several significant impacts that are under the purview and jurisdiction of the Water Board. These included significant impacts to: (1) biological resources; (2) soil or topsoil resources; (3) hazardous materials; (4) utility and service systems; and (5) hydrology and water quality. The Project EIR also found that the mitigation measures proposed therein would mitigate all of these impacts to less than significant levels. The Project EIR identified the following mitigation measures to mitigate these impacts to less than significant levels:

- Using seeds or cuttings collected at or near the Project area, or higher in the watershed if onsite collection is not feasible, to replace the 53 native tree and shrubs removed at the following rates:
    - Native tree up to 8 inches diameter at breast height (dbh): plant 1 native tree for each tree removed;
    - Native trees up to 20 inches dbh: plant 2 native trees for each tree removed;
    - Native trees greater than 20 inches dbh: plant 3 native trees for each native tree removed; and
    - Native shrubs: plant 2 native shrubs for each native shrub removed;~~.~~
- Maintaining a buffer zone around those riparian trees that will be protected in place during construction;
- Replacing non-native and ruderal vegetation with native grass and forbs by hydroseeding disturbed areas;
- Conducting nesting bird surveys prior to construction and during nesting season, and establishing appropriate buffers to reduce impacts to nesting bird species;

- Preventing soil erosion or loss of topsoil by preparing and implementing Rain Event Action Plans (REAPs);

- Collecting and treating potentially contaminated groundwater encountered during Project excavation in the Jones Chemical groundwater plume area to comply with the VOC and Fuels General Permit standards before discharging the groundwater to the environment; and

- During construction, removing hazardous materials and wastes from the creek channel prior to substantial rain so that water flowing in the creek does not entrain hazardous substances.

The Water Board, as a responsible agency under CEQA, has considered the EIR and finds that in combination with the requirements of this Order, impacts during the construction of the Project that are within the Water Board's purview and jurisdiction have been identified and will be mitigated to less-than-significant levels. This Order includes conditions and mitigation measures that will substantially lessen or avoid the Project's impacts on the environment. The need for compensation of impacts from the Project design is addressed in this Order (see Finding 21).

~~27.~~26. **Water Quality Control Plans.** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) was duly adopted by the Water Board and approved by the State Water Resources Control Board (State Water Board), U.S. EPA, and the Office of Administrative Law where required. The Basin Plan is the Water Board's master water quality control planning document. It designates beneficial uses of receiving waters, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed by the Plan.

Section 2.2.1 of the Basin Plan indicates that the beneficial uses of any specifically identified water body generally apply to its tributary streams. Existing and potential beneficial uses of waters at the Project include the following:

- **Upper Berryessa Creek:** Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Water Contact Recreation (REC-1), and Noncontact Water Recreation (REC-2)

- **Los Coches Creek:** Preservation of rare and endangered species (RARE), WARM, WILD, REC-1, and REC-2

- **Piedmont Creek:** WARM, WILD, REC-1, and REC-2

Upper Berryessa Creek is tributary to Lower Penitencia Creek, Calera Creek, and Tularcitos Creek. The Basin Plan designates WARM, WILD, REC-1, REC-2, and Navigation (NAV) to these creeks. These creeks, in turn, flow into Coyote Creek, a tributary to San Francisco Bay. The beneficial uses of Lower Penitencia Creek are the same as for Upper Berryessa Creek. Some of the beneficial uses of Coyote Creek, which also apply to Upper Berryessa Creek by the Tributary Rule, include migration habitat (MIGR), spawning habitat (SPWN), preservation of rare and endangered species (RARE), and cold water habitat (COLD).

Section 2.2.3 of the Basin Plan indicates that the Water Board will rely on the naming conventions of the National Wetlands Inventory for mapping wetlands. Under these naming conventions, significant portions of Upper Berryessa Creek are riverine wetlands, and, as such, Table 2-3 of the Basin Plan lists examples of existing and potential beneficial uses for riverine wetlands. Therefore, Upper Berryessa Creek is a type of wetland under the Water Board's regulations. Moreover, Section 2.2.3 of the Basin Plan provides a list of aquatic features that the Water Board recognizes as wetlands, some of which would not be recognized as wetlands by the Corps. Some of the features listed that occur at the Project site include unvegetated ponded areas, the inset floodplain within the current channel, and riparian habitat within the Project site and are wetlands that are waters of the State. Moreover, the Project EIR states that there is in-channel wetland vegetation and riparian habitat on the Project site and acknowledges that the riparian habitat is waters of the State, although it iwas not waters of the U.S. The Corps disclaimed federal wetland jurisdiction over the fringing wetland vegetation because it did not have wetland soils. Section 4.23.4 of the Basin Plan states that "The Water Board may choose to exercise its independent authority under the Water Code in situations where there is a conflict between the state and the Corps, such as over a jurisdictional determination … ." Wetlands and waters impacted in the Project site are riverine wetlands. The beneficial uses associated with riverine wetlands at the Project site include WARM, WILD, REC-1, REC-2, and RARE. However, rare or endangered species do not presently inhabit the Project site.

Requirements of this Order implement the Basin Plan.

~~28.~~27. **Basin Plan Wetland Fill Policy.** The Basin Plan Wetland Fill Policy (Fill Policy) establishes that there is to be no net loss of wetland acreage and no net loss of wetland value when a project and any proposed mitigation are evaluated together, and that mitigation for wetland fill projects is to be located in the same area of the region, whenever possible, as the project. The Fill Policy further establishes that wetland disturbance should be avoided whenever possible and, if not possible, should be minimized~~,~~ and only after avoidance and minimization of impacts should mitigation for lost wetlands be considered. The Water Board applies the Fill Policy to waters that are creeks because significant portions of creeks are riverine wetlands. Requirements of this Order implement the Fill Policy.

~~29.~~28. **California Wetlands Conservation Policy.** The goals of the California Wetlands Conservation Policy (Executive Order W-59-93, signed August 23, 1993) include ensuring "no overall loss" and achieving a "…long-term net gain in the quantity, quality, and permanence of wetland acreage and values…." The California Wetlands Conservation Policy also calls for a "development of means to provide flexibility in the regulatory process … for allowing public agencies, water districts, and landowners to establish wetlands on their property consistent with the primary purpose of the property."

Senate Concurrent Resolution No. 28 states that "[i]t is the intent of the legislature to preserve, protect, restore, and enhance California's wetlands and the multiple resources which depend on them for benefit of the people of the State." Section 13142.5 of the CWC requires that the "highest priority shall be given to improving or eliminating discharges that adversely affect…wetlands, estuaries, and other biologically sensitive areas."

The Water Board applies the California Wetlands Conservation Policy to waters that are creeks because significant portions of creeks are riverine wetlands. Requirements of this Order implement the California Wetlands Conservation Policy.

~~30.~~29. **California EcoAtlas.** It has been determined through regional, State, and national studies that tracking of mitigation/restoration projects must be improved to better assess the performance of these projects, following monitoring periods that last several years. In addition, to effectively carry out the California Wetlands Conservation Policy, the State needs to closely track both wetland losses and mitigation/restoration project success. Therefore, this Order~~we~~ requires that the Discharger use the California Wetlands Form to provide Project information related to impacts and mitigation/restoration measures. An electronic copy of the form and instructions can be downloaded at: http://www.waterboards.ca.gov/sanfranciscobay/certs.shtml. Project information concerning impacts and mitigation/restoration will be made available at the web link: http://ecoatlas.org/regions/ecoregion/bay-delta/projects.

~~31.~~30. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). The Discharger is responsible for meeting all requirements of the applicable Endangered Species Acts. As applicable, the Discharger shall utilize the appropriate protocols, as approved by the U.S. Fish and Wildlife Service (USFWS) and stated in the USFWS Coordination Act Report, to ensure that Project activities do not adversely impact water quality or the beneficial uses of Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek, or other beneficial uses of waters downstream of the Project as referenced in Finding 26.

~~32.~~31. **Notification of Interested Parties.** The Water Board has notified interested parties, including the Corps, U.S. EPA, USFWS, the California Department of Fish and Wildlife, the Guadalupe-Coyote Resource Conservation District, the Citizens Committee to Complete the Refuge, the City of Milpitas, the Valley Transportation Authority, BART, the Santa Clara County Parks and Recreation Department, and the California Department of Transportation-District 4, of its intent to prescribe WDRs for this discharge.

~~33.~~32. **Consideration of Public Comment.** The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

~~34.~~33. **Records Management.** This Project file is maintained at the Water Board under CIWQS Place No. 818597, and Regulatory Measure No. 403119.

~~35.~~34. **Fees for Dredge and Fill Projects.** The fee amount for the WDRs shall be in accordance with the current fee schedule, per California Code of Regulations (CCR), Title 23, Division 3, Chapter 9, Article 1, section 2200(a)(3). The Water Board understands, based on information from the Corps and the District, that the District is responsible for the fee.

~~36.~~35. Pursuant to 23 CCR sections 3857 and 3859, the Water Board is issuing WDRs and

Water Quality Certification for the activities proposed in this Order.

IT IS HEREBY ORDERED that the water quality certification pursuant to CWA section 401, dated March 14, 2016, issued to the Corps, is rescinded upon the effective date of this Order, except for enforcement purposes. The Water Board hereby issues this modified certification for the Project, updating the March 14, 2016, certification to reflect current Project conditions, and certifying that any discharge from the Project will comply with the applicable provisions of CWA sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) and with other applicable requirements of State law. Pursuant to the provisions of CWA 401 and Division 7 of the CWC, related regulations, and guidelines adopted thereunder, the Dischargers, their agents, successors, and assigns shall comply with the following pursuant to authority under CWC sections 13263 and 13267:

A. Discharge Prohibitions

1. The discharge of wastes, including debris, rubbish, refuse, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including floodplains, is prohibited.

2. The discharge of floating oil or other floating materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters is prohibited.

3. The discharge of silt, sand, clay, or other earthen materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters is prohibited.

4. The fill activities in waters of the State subject to these requirements shall not cause a nuisance as defined in CWC section 13050(m).

5. The groundwater in the vicinity of the Project shall not be degraded as a result of the Project activities or placement of fill for the Project.

6. The discharge of materials, which are not otherwise regulated by a separate NPDES permit or allowed by this Order, to waters of the U.S. and State is prohibited.

7. The use of imported soil in the Project is prohibited unless the Executive Officer grants an exception to this under the requirements of Provision 16. Under such circumstances, the Discharger shall submit the report required in Provision 16 to provide justification for the use of imported soil fill with resulting impacts to the waters of the State.

8. Directional drilling in the Project is prohibited.

9. The use of bank stabilization methods and materials other than the methods and materials in the 100 percent design plans and specifications is not authorized under this Order.

10. This Order prohibits any creek dewatering, diversion, or discharge before the Executive Officer accepts, in writing (including via electronic mail), a Dewatering Plan that meets the requirements of Provision 12.

11. This Order prohibits the alignment of any utilities, or maintaining existing utility lines in the Project, in such a manner that will create an obstacle to flow or destabilize the creek channel.

B. Provisions

1. The Discharger shall comply with all Prohibitions and requirements of this Order immediately upon adoption of this Order or as otherwise provided below. The Discharger shall fully implement all requirements of this Order, including all plans accepted by the Water Board or the Executive Officer. The Discharger shall notify the Executive Officer in writing should the Discharger need to significantly alter the Project. If the Water Board is not notified of a significant alteration to the Project, the Discharger will be considered in violation of this Order and may be subject to Water Board enforcement actions.

2. All plans and reports required under this Order shall be submitted and acceptable to the Executive Officer.

3. The Project shall be constructed in conformance with the 100 percent Design Plans dated August 4, 2016, and 100 percent Planting Plan, dated April 1, 2016, consistent with Finding 11.

4. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation.

5. Disturbance or removal of vegetation shall be minimized. The Project site shall be stabilized through incorporation of appropriate BMPs, including the successful establishment of native grass vegetation, to compensate for impacts to wildlife habitat values and to prevent and control erosion and sedimentation. The Discharger shall revegetate the Project based on the 100 percent Planting Plan and Specifications for trees and shrubs dated April 1, 2016, and the 100 percent Conformed Drawings dated August 4, 2016, for native wetland and grass species. The Discharger shall maintain trees and shrubs for five years as stated in the Application.

6. There shall be no violation of any water quality standard for receiving waters adopted by the Water Board or the State Water Board. Creek dewatering discharges, accumulated groundwater or stormwater removed during dewatering of excavations, and diverted creek and stormwater flows shall not be discharged to waters of the State without meeting the receiving water objectives in the Basin Plan.

7. Dredging, excavation, and fill in Upper Berryessa Creek, Piedmont Creek, and Los Coches Creek shall not cause the turbidity in the receiving water (i.e., water in these

creeks and in waters to which they discharge) to increase by more than 10 percent if the ambient turbidity of the receiving water is greater than 50 NTU or by more than 5 NTU if the ambient turbidity of the receiving water is less than or equal to 50 NTU.

8. No equipment shall be operated in stream channels or other waters where there is flowing or standing water. No fueling, cleaning, or maintenance of vehicles or equipment shall take place within any areas where an accidental discharge to waters of the State may occur.

9. Concrete used in the Project shall be allowed to completely cure (a minimum of 28 days) or be treated with a California Department of Fish and Wildlife-approved sealant before it comes into contact with flowing water.

10. **Construction General Permit.** The Discharger shall seek coverage under and comply with, or oversee that its contractors seek coverage and comply with, the statewide General Permit for Discharges of Storm Water Associated with Construction Activities (Order No. DWQ-2009-0009, as amended by Order Nos. 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit). All work performed within waters of the State shall be completed in a manner that minimizes impacts to water quality and the beneficial uses of Upper Berryessa Creek, Los Coches Creek, and Piedmont Creek and waters downstream of these creeks.

11. **Rain Event Action Plan.** The Discharger shall develop and implement a Rain Event Action Plan (REAP), as required by the Construction General Permit, designed to protect all exposed portions of the Project site within 48 hours prior to any likely precipitation event. The REAP requirement is designed to ensure that the Discharger has adequate materials, staff, and time to implement erosion and sediment control measures that are intended to reduce the amount of sediment and other pollutants generated from the active site. A REAP must be developed when there is a forecast of 50 percent or greater probability of precipitation in the Project area.

12. **Dewatering Plan.** The Discharger shall ~~develop and~~ implement, or ensure that its contractor ~~develops and~~ implements, ~~a~~ the Dewatering Plan ~~that is acceptable to the Executive Officer, and is~~ consistent with Finding 14 and the discharge requirements in Provision 14, for surface and groundwater flows throughout the Project site, excluding the groundwater flow within the JCI plume area~~ones Chemical potential zone of influence~~ that is regulated under Provision 13.

13. **Groundwater Management Plan.** The Discharger shall implement the Groundwater Management Plan dated January 26, 2016, and~~,~~ accepted by the Executive Officer on March 8, 2016, to meet the standards of the VOC and Fuel General Permit, consistent with Finding 15, and discharge requirements in ~~the~~ Provision 14.

14. **Discharge and Receiving Water Objectives.** Creek dewatering discharges, accumulated groundwater or stormwater removed during dewatering of excavations, and diverted creek and stormwater flows shall not be discharged to waters of the State without meeting the following discharge and receiving water limitations herein. All

monitoring records at the Project site shall be maintained at a location to be designated in the Dewatering Plan and shall be made available upon request by Water Board staff.

a. pH - the instantaneous discharge pH shall be in the range of 6.5 to 8.5, and controllable water quality factors shall not cause changes greater than 0.5 units in the receiving water pH levels.

b. Discharge Dissolved Oxygen - the discharge dissolved oxygen concentration shall be no less than 5.0 milligrams per liter (mg/L) (hourly average).

c. Discharge Dissolved Sulfide - the discharge dissolved sulfide shall not be greater than 0.1 mg/L.

d. Receiving Water Turbidity - the receiving water turbidity measured as nephelometric turbidity units (NTU) shall not be greater than 10 percent of natural conditions in areas where natural turbidity is greater than 50 NTU (daily average). All Project discharge plans shall identify an acceptable location or locations at which to measure background turbidity. The Discharger shall monitor receiving water and discharge turbidity at least one time every 8 hours on days when discharges from excavations or any other dewatering processes may occur.

e. Receiving Water Temperature - the receiving water shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature.

f. Nutrients - the receiving waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

15. **Post-Construction Stormwater Management Plan.** No later than 90 days from the date this Order is adopted, the Discharger shall submit a Post-Construction Stormwater Management Plan consistent with the Municipal Regional Stormwater Permit's (Water Board Order No. R2-2015-0049; NPDES Permit No. CAS612008) requirements for post-construction stormwater management for new or replacement impervious surfaces. The plan shall identify construction materials, designs, treatment controls, a proposed operation and maintenance plan, and all other information, as appropriate, sufficient to ensure the appropriate treatment of runoff from 6.8 acres of maintenance roads and 0.1 acres of concrete access roads and ramps, either onsite or at an alternative offsite location, and a trash management plan for public access areas.

16. **Fill Quality Report**. The Discharger shall avoid reusing any contaminated soil excavated from within the JCI plume area, consistent with the Project's DDR. The ~~Water Board~~ Executive Officer may authorize reuse of soil from the JCI plume area if the soil analytical results meet the criteria outlined in this Provision. The Discharger shall maintain records onsite of laboratory analyses, excavation quantities, stockpiling, and disposal records, for soil excavated from the JCI plume area, and shall make the records available upon request by the ~~Water Board~~ Executive Officer or staff upon request.

    In addition, n~~N~~o later than 30 days prior to placing any imported soil fill material, and

any soil from within the JCI plume area, at the Project area, including all placement of fill in areas below the top of bank, on levees, and at any other location where the fill is a discharge to or has the potential to discharge to any waters of the State in the Project, the Discharger shall submit a technical report, acceptable to the Executive Officer, that the chemical concentrations in the imported fill soil are in compliance with the protocols specified in the following documents:

- The Dredged Material Management Office (DMMO) guidance document *Guidelines for Implementing the Inland Testing Manual in the San Francisco Bay Region* (Discharger Public Notice 01-01, or most current version) (Inland Testing Manual) with the exception that the water column bioassay simulating in-bay unconfined aquatic disposal shall be replaced with the modified effluent elutriate test, as described in Appendix B of the Inland Testing Manual, for both water column toxicity and chemistry (DMMO suite of metals only); and,

- The Water Board May 2000 staff report *Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines*, or the most current revised version. Water Board staff shall review and approve data characterizing the quality of all material proposed for use as fill prior to placement of fill at any of the levee, marsh, or channel areas at the Project site. Modifications to these procedures may be approved by the Executive Officer on a case-by-case basis, pending the Discharger's ability to demonstrate that the imported fill material is unlikely to adversely impact beneficial uses.

17. **Maintenance.** Maintenance activities shall be consistent with the District's SMP as described in Finding 16~~,~~ and consistent with the Adaptive Management Plan this Order requires pursuant to Provision 18 (Finding 17). In addition, the mitigation required due to impacts from maintenance activities shall be consistent with the District's SMP.

18. **Adaptive Management Plan.** No later than 180 days after the date this Order is adopted, the Discharger shall submit an Adaptive Management Plan that is consistent with Finding 17. The Adaptive Management Plan shall identify the Project's performance with respect to sediment deposition and accumulation and develop ways of reducing the need and frequency of maintenance activities and maximizing habitat acreage, values, and functions. The Adaptive Management Plan shall be implemented immediately upon Project channel construction completion. For the purposes of this Order, Project channel construction completion is defined as the first business day after construction contractors are no longer within the Project right-of-way, except for any contractor present solely for the purposes of vegetation planting, monitoring, and/or management.

    The Adaptive Management Plan shall include, but not be limited to, the following elements:

    a. A workplan to periodically conduct cross-sectional and longitudinal profile surveys and collect stage-discharge recordings, including high water stages and velocities, after the Project is constructed. The data collected shall inform the Geomorphology Report described below in section (f).

b. A decision-making process to avoid sediment and/or vegetation removal before analyzing channel capacity based on field survey data to be collected in accordance with (a) above.

c. Identification of a maintenance trigger based on a stated freeboard; and other appropriate maintenance trigger(s).

d. Identification of stream gage locations necessary to implement the monitoring requirements for the Adaptive Management Plan, installation of gage(s), and data acquisition and analysis of stream flow gage(s) to implement the monitoring requirements of the Adaptive Management Plan.

e. A collaborative process comparable to the District's Notification of Proposed Work process under the SMP (see Finding 16) to convene a team, including Discharger staff and Water Board staff, to jointly develop Project-specific maintenance work plans, acceptable to the Executive Officer, for any bank stabilization, sediment, and/or vegetation (including woody vegetation) maintenance activities that may be necessary in the event that a maintenance trigger (or multiple triggers) occurs.

f. **Geomorphology Report.** A report submitted after five measurable flood events at or exceeding the estimated 1.1-~~2~~ year flood event, and one event at or exceeding the estimated 10-year flood event, to analyze data collected over the first years of Adaptive Management Plan implementation to evaluate channel performance and address the uncertainty in sediment transport processes (see Finding 16). The Geomorphology Report will evaluate:

   i. whether flow events have occurred that will enable the evaluation of sediment deposition processes in the Project;

   ii. whether sediment deposition rates have increased or decreased compared to the existing conditions;

   iii. whether sediment only accumulates at the two UPRR~~R~~ culverts as stated in the Project EIR; and

   iv. a comparison of stage-discharge relationships based on collected field data and the model projections.

   In addition, the Geomorphology Report shall be the basis for the following possible steps to determine whether the District will continue implementing the Adaptive Management Plan:

   v. The Executive Officer shall authorize the Project to be transferred to the District's SMP if results in the report indicate sediment deposition has decreased or is similar to existing conditions. The maintenance guidelines developed with the Adaptive Management Plan shall be incorporated into the District's SMP and implemented for future maintenance activities under the SMP.

vi. The District shall continue implementing the Adaptive Management Plan if the Geomorphology Report findings indicate the sediment transport issues have not been resolved, either because not enough rainfall has occurred to generate flows in the creeks to verify sediment transport processes and/or because the data are inconclusive.

Mitigation Requirements

19. **Mitigation and Monitoring Plan.** No later than June 30, 2017, the Discharger shall submit a final Mitigation and Monitoring Plan (MMP)~~,~~ acceptable to the Executive Officer. The MMP shall include the following performance criteria by addressing the following elements and/or comparable criteria appropriate for the case-specific plan:

a. The MMP shall include a proposal, workplan, monitoring plan, performance standards, and all other information, as appropriate, sufficient to ensure the mitigation of permanent ~~ly affected~~ and temporal losses in functions and values of waters of the State and~~,~~ ~~at a minimum mitigation-to-effect ratio of 2:1 and mitigation of temporarily affected habitat at a minimum mitigation-to-effect ratio of 1.5:1~~ to ensure the Project results in no net loss and a long-term net gain in wetland and waters area, function, and value, consistent with Finding 21.

Thus, the mitigation package (i.e., the MMP) shall provide for a minimum restoration of the Project reach, subject to the Adaptive Management Plan (see Provision 18) and additional offsite mitigation. ~~approximately twice the 10.19.81-acre area and 10,072-linear-foot length feet of creek waters, or the equivalent, as compared to the area and linear feet in which rock riprap and concrete will be placed~~The offsite mitigation shall enhance 15,000 linear feet or 15 acres of creek waters or the equivalent.

The Water Board may require a lesser or greater amount of ~~additional~~ area and/or linear feet based changes in the factors listed in Finding 21, such that the size and scope of the mitigation project ~~on the type and proximity of the mitigation project. Thus, the size and scope of the mitigation project~~ shall be appropriate for the Project's impacts ~~based on variations of the ratios above, as described in Finding 21~~.

b. The MMP shall include (but not be limited to) the vegetation performance standards and success criteria, or comparable standards, as those in Attachment B. If the offsite mitigation plan includes vegetation plantings and/or hydroseeding, the vegetation shall be monitored annually for success, health, and vigor as specified in Attachment B, Tables 1 and 2.

c. Plantings in the offsite mitigation area(s) shall be monitored for a minimum period of five years for grasses, forbs, and shrubs~~,~~ and ten years for trees, until the success criteria in the MMP are achieved.

d. The Discharger shall ensure invasive plant species in the Project site do not exceed cover of more than 10 percent based on the percent cover of, specifically, "highly" invasive plant species as defined by the California Invasive Plant Council. In addition, the Discharger shall apply the guidance in Attachment B, or comparable

standards, for revegetation of onsite grasses, shrubs, and trees specified in the Planting Plan.

e. In addition to performance standards and success criteria for vegetation, the MMP shall identify other appropriate performance standards and success criteria based on the mitigation plan, habitat features, and other factors, as appropriate to the proposed mitigation project(s).

f. The MMP shall include methods for performing an assessment of whether the low-flow channel has recovered within the first five years after construction, using data collected for the Adaptive Management Plan (see Provision 18). If the low flow channel does not recover within five years, the Discharger shall provide additional mitigation to compensate for the temporal loss in function and value due to the impacts of creek widening, consistent with Finding 21.

The MMP shall incorporate the reporting requirements stipulated in Provisions 24 through 28.

20. **EIR Mitigation Measures.** To mitigate the significant impacts identified in the Project EIR over which the Water Board has authority, the Discharger shall implement those mitigation measures, which are summarized below and described in Finding 25:

a. Replacing any native trees and shrubs of certain sizes the Project will remove during construction;

b. Maintaining a buffer zone around riparian trees during construction;

c. Replacing non-native and ruderal vegetation with native grass and forbs;

d. Conducting nesting bird surveys following established protocols prior to construction and during the nesting season (general mid-April to late July). If nests are detected at staging areas and construction sites during these surveys, a 50-foot no-construction buffer will be delineated around the nest until young have fledged (300-foot buffer for raptors);

e. Preparing and implementing Rain Event Action Plans;

f. Preparing and implementing a creek dewatering plan;

g. Collecting and treating potentially contaminated groundwater encountered to meet the VOC and Fuels General Permit standards; and

h. Preventing hazardous materials and wastes from being entrained in creek flow.

21. **Log of Impacts.** The Discharger shall maintain an Impacts Log to track Project activities including the start dates of impacts to waters of the State and the associated mitigation activities. The Discharger shall make the Impacts Log available for review by Water

Board staff upon request. The Impacts Log shall include, but not be limited to, the start dates of the following Project milestones:

a. Channel excavation and grading;

b. Creek dewatering;

c. Groundwater management;

d. Hydroseeding;

e. Tree and shrub planting; and

f. Offsite mitigation construction elements (as described in the MMP requirements (Finding 21; Provision 19)).

Reporting Requirements

22. All reports pursuant to these Provisions shall be prepared under the supervision of suitable professionals registered in the State of California.

23. The Discharger shall report any water quality monitoring data that are not in compliance with Provision 14 (a non-compliance event) to the Water Board within 24 hours via telephone and shall follow up with a written report within 14 days. The written report shall provide the following:

    a. Discharge and receiving water measurements for the water quality parameter(s) collected during the non-compliance event;

    b. The location, duration, and likely cause of the non-compliance event;

    c. All actions taken to remedy non-compliance immediately after identifying the non-compliance event and to mitigate for any adverse impacts caused or contributed to by the non-compliance event; and

    d. All actions taken to prevent a similar non-compliance event in the future.

24. **California EcoAtlas.** The Discharger shall use the standard California Wetlands Form to provide Project information describing impacts and restoration measures no later than 14 days from the date of the final MMP approved pursuant to Provision 19. An electronic copy of the form can be downloaded at: http://www.waterboards.ca.gov/sanfranciscobay/certs.shtml. The completed form shall be submitted electronically to habitatdata@waterboards.ca.gov or shall be submitted as a hard copy to both (1) the Water Board, to the attention of EcoAtlas, and (2) the San Francisco Estuary Institute, 4911 Central Avenue, Richmond, CA 94804, to the attention of EcoAtlas.

25. **Mitigation Monitoring Reports**. The Discharger shall submit annual reports, no later than January 31 following each year in which mitigation is monitored, during each year

of the first five years of the initial ten year monitoring period. After the first five years, the Discharger shall submit reports in years seven, nine, and ten. The reports shall summarize each year's monitoring results, including the need for any remedial actions (e.g., re-planting or bank stabilization). The annual report shall compare data to previous years and describe progress towards meeting final success criteria. The final year's report (e.g., the year 10 report if the MMP spans 10 years) shall consist of the annual data from the final year (e.g., from year 10 for an MMP that spans 10 years), in addition to a comprehensive final report. Annual reports and the comprehensive final report shall include photographs from the photo-documentation points specified in Provision 29.

The final report shall document whether the Project site and offsite mitigation area(s) meet the final performance criteria of the MMP. If the criteria are not met, the report shall identify remedial measures to be undertaken, including extension of the monitoring period until the criteria are met.

Success of the mitigation program shall be determined by the Executive Officer after all the minimum success criteria in MMP are achieved. All Annual Reports shall include photographs, special-status species monitoring, and all other information, as appropriate.

26. The Discharger shall continue to submit Annual Reports after the designated monitoring period in the MMP as necessary (e.g., after the first ten years if the MMP spans 10 years), until the sites have met their performance standards and final success criteria, and the Executive Officer has accepted a notice of mitigation completion (see Provision 28) for each mitigation site.

27. **EIR Mitigation Measure Implementation**. The Discharger shall submit annual reports to report on implementation of Project EIR mitigation measures pursuant to Provision 20. The Discharger shall submit the first annual report no later than January 31 following ~~initiation of construction~~adoption of this Order and shall continue annual reporting until one year after completion of channel construction. Annual reporting to meet this requirement may be a section within the MMP annual reports required under Provision 25, with clearly defined section headings to identify the Project EIR mitigation annual data and information.

28. **Notice of Mitigation Completion**. When the Discharger has determined that a mitigation area achieved the performance standards and final success criteria specified in the MMP, it shall submit a notice of mitigation completion. This notice shall include a status report on the implementation of the long-term maintenance and management portion of the MMP and a description of the status of the mitigation component that has been determined to be successful. After acceptance of the notice of mitigation completion in writing by the Executive Officer, the Discharger's submittal of mitigation monitoring reports for that mitigation component is no longer required.

29. **Photo-documentation Report**. To document channel and bank conditions immediately upstream and downstream of the Project site, as well as the Project site itself, the Discharger shall establish a minimum of 12 photo-documentation sites at the Project site, and additional sites sufficient to document each bridge crossing in the Project. These

photo-documentation sites shall be selected to document channel and bank conditions immediately upstream and downstream of each site, as well as the Project reach. The Discharger shall prepare site maps with the photo-documentation points clearly marked. Prior to implementing the Project, the Discharger shall photographically document the condition of each site. Following implementation of the Project, the Discharger shall photographically document the immediate post-construction condition of the sites and submit a report to the Water Board including the pre-construction photographs, the post-construction photographs, and the map with the locations of the photo-documentation points. This report shall be submitted to the Water Board along with the as-built plans (Provision 30).

30. **As-built Plans.** Within 180 days of construction completion in the Project site, the Discharger shall submit an as-built report of the Project in both digital format and hard copy of at least 11-inches by 17-inches to the Water Board. The as-built report shall be submitted either by email to staff or by uploading it to the Water Board's FTP internet site. Instructions for uploading documents to the FTP internet site are available at http://www.waterboards.ca.gov/sanfranciscobay/publications_forms/documents/FTP_Discharger_Guide-12-2010.pdf. If the as-built report is submitted by uploading it to the FTP internet site, the Discharger shall notify the Water Board case manager via email. For purposes of this Order, the definition for construction completion shall be the final date when construction contractors (excluding contractors for revegetation activities) are in the Project site.

31. **Project Completion Report**. The Discharger shall notify the Water Board by electronic mail or by hard copy of Project completion upon transfer of the Project to the local sponsor. This notification, known as a Project Completion Report, shall consist of the following information: (a) the CIWQS Place ID for this Project (i.e., CWIQS Place ID 818597); (b) the date Project construction activities were completed; and (c) the completion date of mitigation plantings. Project construction activities for the purpose of this condition are defined as activities associated with construction of the Project, establishing native grass vegetation on the banks, and planting trees and shrubs as per the Planting Plan. The Project Completion Report shall be submitted to Susan Glendening at Susan.Glendening@waterboards.ca.gov, or the current Water Board staff member assigned to the Project.

32. **Final Operations and Maintenance Manual.** The Discharger shall submit the final Project Operations and Maintenance Manual, as referenced in Finding 16, to the Water Board upon transfer of the Project to the local sponsor.

Other Requirements

33. The Discharger shall immediately notify the Water Board by telephone whenever an adverse condition occurs as a result of this discharge. Such a condition includes, but is not limited to, a violation of the provisions of this Order, a significant spill of petroleum products or toxic chemicals, or damage to control facilities that would cause noncompliance. A written notification of the adverse condition shall be submitted to the Water Board within two weeks of occurrence. The written notification shall identify the

adverse condition, describe the actions necessary to remedy the condition, and specify a timetable, subject to the modifications of the Executive Officer, for the remedial actions. The Discharger shall notify the Water Board, in writing or via electronic mail, at least 30 days prior to actual start dates for each Project component (i.e., prior to the start of grading or other construction activity for any Project component, including the creek mitigation components).

34. The Discharger shall at all times fully comply with the engineering plans, specifications, and technical reports submitted with the Project materials for the Corps' ~~Certification~~ Application and the plans and reports required by this Order (e.g., Provisions 12, 13, 15, 16, 18, and 19), which, together, serve as the basis for the Project description this Order covers.

    Please be advised that failure to implement the Project as proposed is a violation of this Certification. Failure to comply with any condition of this Certification shall constitute a violation of the CWA. Any such Certification previously granted shall immediately be revoked and any or all discharges shall cease. The Discharger may then be subject to injunctive release, including stop work and/or restoration orders.

35. The Discharger shall be responsible for work conducted by its consultants, contractors, and subcontractors.

36. The Discharger is considered to have full responsibility for correcting any and all problems that arise in the event of a failure that results in an unauthorized release of waste or wastewater. The discharge of any hazardous, designated, or non-hazardous waste as defined in Title 23, Division 3, Chapter 15 of the California Administrative Code, shall be disposed of in accordance with applicable State and federal regulations.

37. The Discharger shall remove and relocate any wastes that are discharged at any sites in violation of this Order.

38. The Discharger shall maintain a copy of this Order at the Project site at all times during construction of the Project and be made available to Water Board staff upon request. All foremen and other employees responsible for overseeing that construction of the Project complies with permitting requirements shall have access to and be familiar with the Order requirements.

39. The Discharger shall permit the Water Board or its authorized representatives at all times, upon presentation of credentials:

    a. Entry onto Project premises, including all areas on which wetland or waters fill or mitigation of waters of the State, is located or in which records are kept.

    b. Access to copy any records required to be kept under the terms and provisions of this Order.

    c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

d. Sampling of any discharge or surface water covered by this Order.

40. This Order does not authorize commission of any act causing injury to the property of another or of the public; does not convey any property rights; does not remove liability under federal, State, or local laws, regulations or rules of other programs and agencies, nor does this Order authorize the discharge of wastes without appropriate permits from other agencies or organizations.

41. The Discharger shall timely pay all fees associated with this Order. The fee amount for this Order shall be in accordance with the current fee schedule, per California Code of Regulations, Division 3, Chapter 9, Article 1, section 2200(a)(3). The fee payment shall indicate the Order number, the CIWQS Place ID no. 818597, the Regulatory Measure ID no. 403119, and the applicable season.

42. This Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC section 13330 and 23 CCR section 3867.

43. The Water Board may add to or modify the conditions of this Order, as appropriate, to implement any new or revised water quality standards and implementation plans adopted and approved pursuant to the CWC or CWA section 303 or in response to new information concerning the conditions of the Project. Additionally, the Water Board reserves the right to suspend, cancel, or modify and reissue this Certification, after providing notice to the Discharger, if the Water Board determines that the Project fails to comply with any of the conditions of this Certification, or when necessary to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the CWC or CWA section 303 (33 U.S.C. § 1313).

44. This Order is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Project materials for the Order were filed pursuant to 23 CCR subsection 3855(b) and those Project materials specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

45. The Water Board may consider rescission of this Order upon Project completion and the Executive Officer's acceptance of notices of completion of mitigation for all mitigation, creation, and enhancement projects required or otherwise permitted now or subsequently under this Order.

This Order applies to the Project as proposed in the Project materials. Failure to implement the Project as proposed and as authorized herein is a violation of this Order. Violation or threatened violation of the Provisions of this Order is subject to any remedies, penalties, process or sanctions as provided for under applicable State or federal law, including administrative civil liability pursuant to CWC section 13350. Failure to meet any Provision of this Order may subject the Discharger to civil liability imposed by the Water Board to a maximum of $5,000 per day of violation or $10 for each gallon of waste discharged in

violation of the Order. Also, any requirement for a report made as a Provision to this Order (e.g., Provisions 23 through 32) or technical or monitoring reports the Water Board requests in response to a suspected violation of this Order, is a formal requirement pursuant to CWC section 13267, and failure to submit, late or inadequate submittal, or falsification of such technical report(s) is also subject to civil liability pursuant to CWC section 13268.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on (date).

_____

Bruce H. Wolfe
Executive Officer

Attachments:

Attachment A - Figures

1 – Upper Berryessa Creek Project Location and Vicinity

2 – Project Elements, Calaveras Boulevard to Ames Avenue

3 – Project Elements, Ames Avenue to Interstate 680

Attachment B - Vegetation Performance Standards and Criteria

ATTACHMENT A
Figures

ATTACHMENT B
Vegetation Performance and Success Criteria

Performance and success criteria for the Project's mitigation plantings are outlined in Table 1. The overall health and vigor of all plantings will be evaluated each year in the field using the ratings listed in Table 2. The criteria include annual or semi-annual plant survival success criteria of no less than five years for herbaceous species and no less than ten years for woody species (i.e. trees and shrubs).

a. A vegetation monitoring plan shall be developed and implemented to track whether the plantings meet success criteria; replanting to replace unsuccessful growth; and other steps to ensure establishment, vigor, and health in mitigation plantings and mitigation success.

b. The mitigation for tree and shrub removals shall be consistent with the tree removal ordinances or similar requirements in the County of Santa Clara and cities of Milpitas and San Jose, at a minimum, and shall meet the requirements of the U.S. Fish and Wildlife Service Coordination Act Report for the Project dated April 26, 2013.

c. The Discharger shall water all riparian and wetland plantings for a minimum of three years. The Discharger shall continue to water all plantings during all projected dry water years (defined as 75 percent of average annual rainfall) that occur during the first ten years after construction. Any replacement plants shall be watered for a minimum of three years.

d. The Discharger shall follow the best management practices for preventing introduction and spreading of plant pathogens in mitigation areas, in accordance with the Planting Plan.

Table 1. Performance and Minimum Success Criteria - Offsite Mitigation Plantings

Habitat Type	Criteria
Native herbaceous and forbs communities – percent cover native species and non-native species	Year 1: 50 percent cover Year 3: 75 percent cover Year 5: 85 percent cover • Post-planting shall meet 85 percent cover after five years • Invasive plant species at a maximum cover of no more than 10% based on, specifically, "highly" invasive plant species as defined by the California Invasive Plant Council. • Health and vigor monitoring pursuant to Table 2.

Riparian plantings including trees and shrubs – canopy cover success criteria	• Performance standards and success criteria shall be consistent with the District's Stream Maintenance Program Manual, July 21, 2014, section 11.3.2. • In addition, shrubs and trees shall be monitored for an additional 5 years beyond the first 5 years following initial planting. Monitoring shall be conducted in years 6 through 10, but annual reporting shall only be in years 7, 9, and 10. Each annual report shall cover the monitoring for the previous year or two years of monitoring conducted, in addition to the cumulative monitoring results at each monitoring milestone. • Annual health and vigor monitoring pursuant to Table 2.
Seasonal wetland communities (applicable if the offsite mitigation area includes seasonal wetland habitat)	Year 1: 5 percent or greater absolute cover of planted and natural recruitment of wetland species. No more than 5 percent absolute cover of target invasive plants. No large unvegetated bare spots (greater than 25 percent) or erosional areas; no evidence of oversaturation or permanent inundation. Year 2: 20 percent or greater absolute cover of planted and natural recruitment of wetland species. No more than 5 percent absolute cover of target invasive plants. No large unvegetated bare spots (greater than 25 percent) or erosional areas; no evidence of oversaturation or permanent inundation. Year 3: 45percent or greater absolute cover of planted and natural recruitment of wetland species. No more than 5 percent absolute cover of target invasive plants. No large unvegetated bare spots (greater than 25 percent) or erosional areas; no evidence of oversaturation or permanent inundation. Year 4: 60 percent or greater absolute cover of planted and natural recruitment of wetland species. No more than 5 percent absolute cover of target invasive plants. No large unvegetated bare spots (greater than 25 percent) or erosional areas; no evidence of oversaturation or permanent inundation. Year 5: 70 percent or greater absolute cover of planted and natural recruitment of wetland species. • Invasive plant species at a maximum cover of no more than 10% based on, specifically, "highly" invasive plant species as defined by the California Invasive Plant Council. • No large unvegetated bare spots (greater than 20 percent) or erosional areas; no evidence of oversaturation or permanent inundation. • Annual health and vigor monitoring pursuant to Table 2.

Table 2. Health and Vigor Ratings

5	Excellent – less than 5% of the quadrat affected by mortality or cumulative symptoms of poor health, for example, disease, insect damage, mechanical damage, and poor growth;
4	Very good – 5 to 25% of quadrat affected by mortality or cumulative symptoms of poor health;
3	Good – 25 to 50% of quadrat affected;
2	Fair – 50 to 75% of quadrat affected;
1	Poor – greater than 75% of quadrat affected; or
0	Dead – no living plants in quadrat